

35. The method according to claim 33, wherein the polyamide for the matrix or substrate is nylon.

36. The method according to claim 27, wherein the laminate has an inner layer of polypropylene, an outer layer of polyethylene terephthalate and an intermediate composite layer of a silicon oxide with polyethylene terephthalate or polyvinyl alcohol.

REMARKS

I. Claim Amendments

The claims have been amended to more clearly define the invention and to place the claims in conformance with U.S. patent practice.

Specifically, claims 1-10 have been amended to recite a method of using a laminate as a barrier material against ethylene oxide gas. Method claims 1-10 recite the steps of forming the laminate and then exposing the laminate to ethylene oxide gas wherein the laminate is substantially impermeable to ethylene oxide gas. Support for the expression "substantially impermeable" is found on page 3, line 21 of the specification.

Claim 11 has been amended to recite that a container comprising a laminate is exposed to ethylene oxide gas wherein the laminate acts as a barrier material to the ethylene oxide gas.

Support for amended claim 11 is found on page 3, lines 10-14.

New claims 27-36 are directed to a method of using a container with walls made from a laminate having ethylene oxide barrier properties. New claims 27-36 recite the steps of forming the container and then exposing the container to ethylene oxide gas.

Applicants submit that the claim amendments are fully supported by the specification as originally filed. Accordingly, no new matter has been introduced by any of the claim amendments.

II. The Claimed Invention

It is Applicants' invention that a laminate having an inner layer containing a polyolefin, an outer layer containing a polyester, a polyolefin or a polyamide, and an intermediate layer containing a silicon oxide has a low permeability to ethylene oxide gas and is relatively unreactive with ethylene oxide gas. There is no disclosure in the prior art of the effectiveness of such silicon oxide-containing laminates as barriers to ethylene oxide gas. These barrier properties are especially advantageous when ethylene oxide gas is used as a sterilizing medium for medical and surgical articles.

III. Prior Art Rejections - 35 U.S.C. §§102 and 103

Claims 1-5 and 11 are rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 3,442,686 to Jones ("Jones"). In connection with this rejection, the Examiner also directs the Applicants' attention to EP 0 550 039 (Toyo Boseki KK).

Claims 1-11 are rejected under 35 U.S.C. §103(a) as being unpatentable over Jones in view of EP 0 550 039 (Toyo Boseki KK) and Japanese Patent No. 5-84276. Claims 6-11 are rejected under 35 U.S.C. §103(a) as being unpatentable over Jones in view of EP 0 550 039 (Toyo Boseki KK).

Each of the cited prior art references is discussed in the paragraph bridging pages 2 and 3 of the specification. As noted in the specification, there is no disclosure or suggestion in the prior art of the effectiveness of silicon oxide-containing laminates as barriers to ethylene oxide gas.

The same prior art was cited during the examination of international application No. PCT/SE98/01383 (the "PCT application") from which the referenced U.S. national phase application derives. In this regard, the Examiner's attention is directed to the International

Preliminary Examination Report (“IPER”) that issued in connection with the PCT application. It was concluded in the IPER that the prior art does not mention that the silicon oxide-containing laminates of the invention would have excellent barrier properties against ethylene oxide gas.

Moreover, it is stated in the IPER that:

...the problem with barrier properties against ethylene oxide gas is of another kind than for other gases in general. Therefore, it is not considered obvious for a person skilled in the art to examine a laminate impermeable to gases in general as a barrier to ethylene oxide gas, with a reasonable expectation of success.

In support of novelty and non-obviousness, Applicants rely on the conclusions set forth in the IPER. Moreover, the claims have been amended to recite the special technical feature that defines a contribution which the claimed invention makes over the prior art. Specifically, amended claims 1-11 and new claims 27-36 expressly recite the step of exposing the silicon oxide-containing laminate or container to ethylene oxide wherein the laminate or container walls are substantially impermeable to ethylene oxide gas. This “exposure” step is neither disclosed nor suggested in the prior art. Furthermore, the unexpected barrier properties of the claimed invention are an advantage in support of non-obviousness.

For all of the foregoing reasons, withdrawal of the rejections under 35 U.S.C. §§102 and 103 is requested.

CONCLUSION

Applicants respectfully submit that the Amendment and Remarks are responsive to the Office Action. Amended claims 1-11 and 27-36 are in condition for allowance, which action is earnestly solicited.

Any other fee due in connection with this communication should be charged to Deposit Account No. 23-1703.

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Respectfully submitted,



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